

A man and a woman are sitting in wooden deck chairs on a wooden dock. The man, on the left, is wearing an orange t-shirt, light blue jeans, a tan bucket hat, and sunglasses. He is smiling and looking towards the woman. The woman, on the right, is wearing a green sleeveless top and blue jeans. She is also smiling and looking towards the man. They are sitting on a wooden dock that extends into a body of water. The background shows a clear blue sky and a line of green reeds or grasses in the distance.

# Collective DC in adverse markets

October 2020

# Contents

[Click on a section >>](#)

# Introduction

The Pension Schemes Bill is progressing through the House of Commons and it seems likely that the Bill will receive Royal Assent later in 2020 or early 2021. It will have been almost three years in the making, but it will usher in, among other things, Collective Money Purchase (more commonly referred to as Collective Defined Contribution / CDC) as a new type of UK pension scheme design.

In a CDC scheme, all contributions are pooled together in a single fund, with members collectively sharing investment and longevity risk. Members' pensions are payable from the CDC scheme itself, although before retirement they have the same right to transfer and / or make use of pension freedoms, if they so wish.

In this briefing, we will examine how effective a typical CDC scheme design would have been during 2020, which has been a year of exceptional asset price volatility. We look at how a CDC arrangement would have fared in comparison with the performance of typical Defined Benefit (DB) and Defined Contribution (DC) designs. In particular, we look at what hypothetical members of each of these three scheme designs would have experienced.

**Let's begin by looking at how CDC schemes operate.**

# How do CDC schemes work?

At their heart, CDC schemes build up assets (from fixed rates of employer and employee contributions plus investment returns), and also liabilities in the form of target (but not guaranteed) benefits. The CDC scheme operates by ensuring that the target benefits are always adjusted so that the value of the liabilities equals the value of the assets.

How is this done? A key aspect of CDC scheme designs is that the target benefits include target revaluation before retirement and target increases after retirement (which we will just term 'increases' in this briefing). As the value of the scheme's assets fluctuates over time, the target increases that can be afforded need to change in order to balance the books – if the value of assets is higher than expected then a greater level of increases can be afforded and vice versa.

Adjusting increases may not seem very helpful in order to balance the values of assets and liabilities but, as we will see below, it actually forms a very powerful technique.

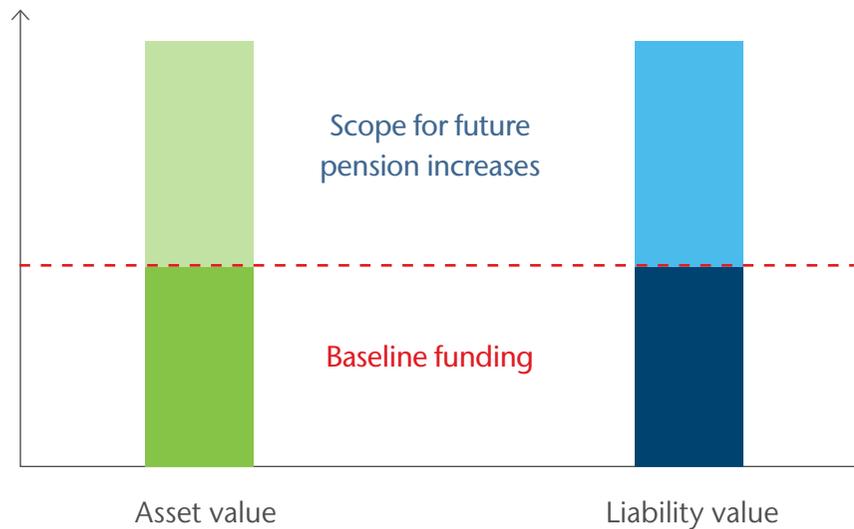
We can demonstrate the financing of the CDC scheme in the chart on the next page, where we are showing the respective values of assets and liabilities as the green and blue columns (which necessarily have to be equal).

We have also shown (in the red dotted line) the level of assets that supports no target increases at all – so-called 'baseline funding'. If the asset value falls to this level, then the scheme can only afford to pay the face value of the target pensions and no more. If the value of assets falls below the baseline level, then we must cut benefits in order to balance the value of the liabilities with the value of assets.

Above the baseline level, we have the scope for future pension increases that are affordable by the current value of the assets and this is represented by the area marked with the blue arrows.



### CDC annual actuarial valuations



#### Baseline funding

- The asset level needed to support pensions without any further increases
- Below the 'baseline funding' line, reductions in pensions are required to restore the funding level to 100%

#### Scope for future pension increases

- The portion of assets used to help deliver increases to target benefits
- Target increases vary each year, to match what assets can afford
- Designed to absorb most asset / liability movements, without needing to resort to benefit cuts

#### Liabilities determined by / based on:

- **Best estimate assumptions:** no prudence, which would otherwise introduce intergenerational unfairness
- **Sustainable level of increases funded by the assets:** funding level is always 100%

In our example, let's say that target increases of 3% p.a. can be afforded based on the current value of the assets. This means that the scheme will pay a 3% increase to beneficiaries this year and expects to do so in each future year too.

# CDC: Market shock

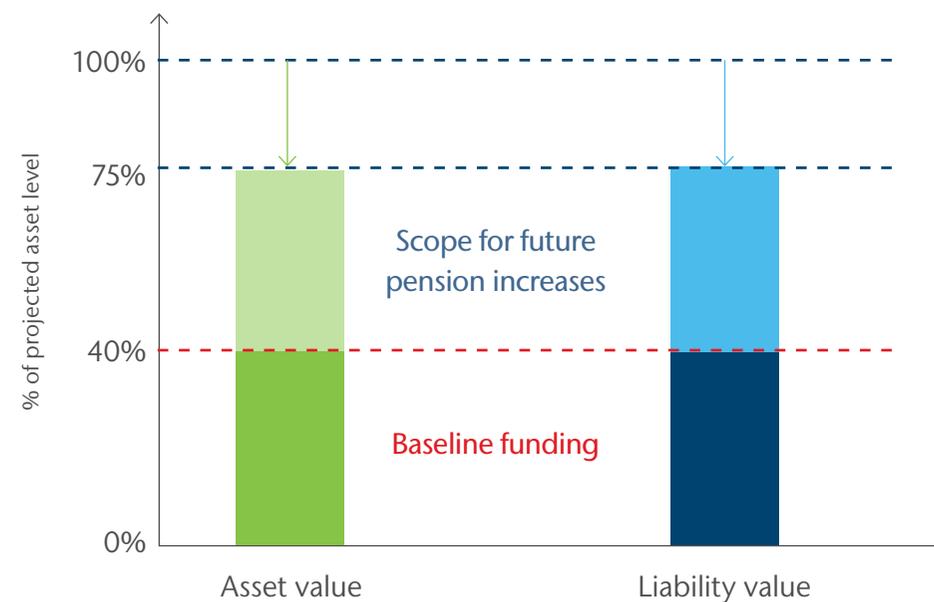
So, how do we expect a typical CDC scheme would have performed after, for example, a 25% reduction in asset values?

First, from an employer's perspective, as with a DC scheme, the employer's contribution rate is fixed. There is no obligation on the employer to restore any reduction in scheme assets.

But we need to ensure the scheme remains 100% funded and this means revising the target level of increases accordingly, as shown in the chart to the right. In this example, benefits do not need to be cut because the value of assets remains above the baseline level, although there is clearly now reduced scope for providing future benefit increases.

On the next page, we set out a worked example showing how a 25% asset shock might have impacted a typical CDC scheme. We also illustrate by how much we would have to adjust our target benefit increases to restore the scheme's funding level to 100%.

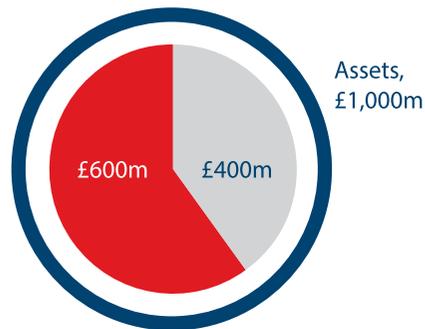
CDC funding in response to a fall in assets



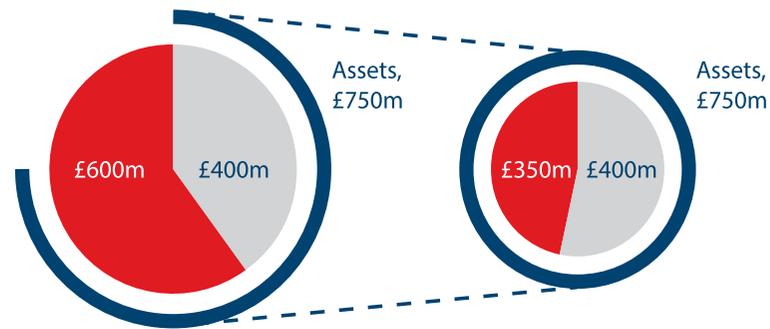
Worked example of a market shock in a CDC scheme

■ Scope for future increases ■ Baseline funding

Previous CDC valuation: before market shock



Current CDC valuation: after 25% shock



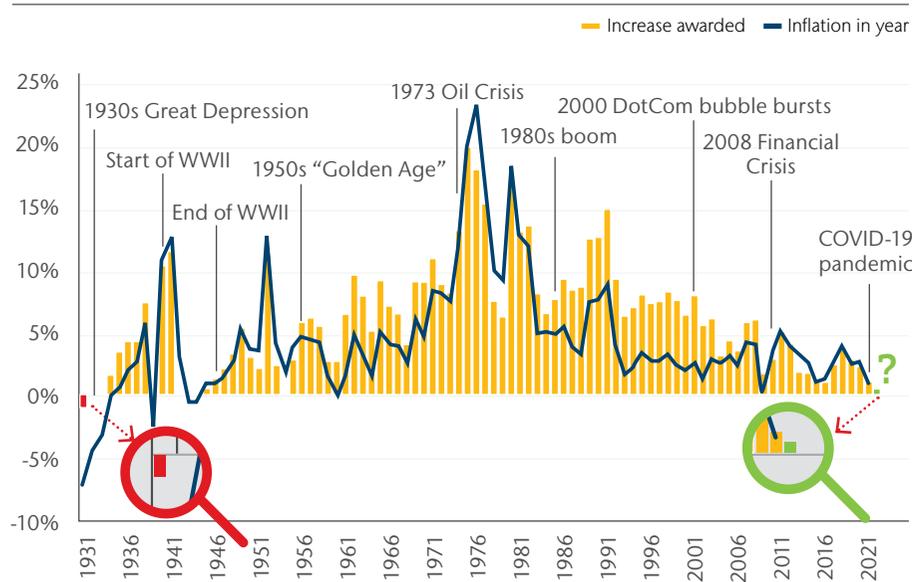
- Before the asset shock, the scheme was targeting benefit increases of 3% p.a.
- Assuming an average duration – or term to payment of pensions – of 25 years, the asset loss can be met on the liability side by reducing the assumed level of benefit increases by 1% p.a. (broadly, a 25% fall in value divided by 25 years’ duration, equals a 1% p.a. reduction in increases)
- Therefore, all members receive a 2% increase in the coming year (not the 3% the scheme was previously targeting).
- The CDC scheme is now fully funded based on targeting increases of 2% p.a. in each future year.
- Communication to members helps realign expectations for current and future target benefit adjustments of 2% p.a.
- 2% p.a. also reflects the target increases for new benefits being accrued in the scheme.

So, despite a 25% fall in asset values, the CDC scheme members still see an increase to their benefits. However, it is a smaller increase than they had been expecting before the asset fall (2% against 3%).

When markets outperform expectations, every CDC member benefits from the upside, with the impact shared across the entire membership. If we fast forward a year from the market fall illustrated above, and say we see a 12.5% recovery in assets, then:

- There’s now more scope to provide future pension increases than there was at the previous valuation.
- The scheme can restore 100% funding by targeting increases of around 2.5% p.a.
- All members receive a 2.5% increase next year, and this becomes the scheme’s target increase going forward.

### Back-testing CDC benefit adjustment outcomes



To help assess how a well-designed CDC scheme might have performed more generally, we have back-tested the impact of past performance on the benefit adjustment outcomes of a hypothetical CDC scheme, targeting inflationary increases, to see what members might have experienced based on market performance between 1930 and 31 March 2020. The bars in the chart above show the absolute level of benefit increases (or decreases) that would have been awarded from our hypothetical CDC scheme over the past 90 years. The blue line shows inflation in each year, for comparison.

Our modelling shows that cuts to benefits (illustrated by the red bar) are very occasionally necessary but only in extreme conditions, such as significant recessions. In fact, over the past 90 years, a well-designed CDC scheme might have seen just one cut, during the Great Depression of the 1930s.

Our modelling also suggests that the recession triggered by the COVID-19 pandemic crisis is not expected to have resulted in members' benefits being cut in our CDC scheme, albeit the scope to award future pension increases has been reduced. Even after the extreme market shock following the outbreak of COVID-19, assets remained in excess of baseline funding, so the target future benefit adjustment remains positive, but at a level that is 1.7% p.a. lower than inflation.

Our scheme's 2021 increase, shown by the green bar, is therefore expected to be positive at the time of writing.

In general, a well-designed CDC scheme will be able to deliver target increases to members' pension benefits broadly in line with inflation. It is clear from our back-testing analysis that there will be some years when a scheme can afford to award above inflation increases, and other years when increases will be below inflation (but still positive). There may also be years where benefits need to be cut, although, as our analysis shows, this ought to be rare in practice.

Ultimately, the ability of a CDC scheme to adjust its target level of indexation to benefits operates as an efficient way of adjusting members' benefits to reflect positive and negative experience over time.

For the purposes of our analysis above, we have updated and refreshed the analysis we carried out for our 2013 and 2015 white papers on CDC. The material in this paper is derived from Aon's proprietary research. Our thought-leadership on CDC can be found and downloaded [here](#).

# CDC: Observations

In a CDC scheme, the impact of market movements – in either direction – is shared across and between members and ‘smoothed’ over time.

Smoothing outcomes across the membership means a one-off market shock – like the one experienced at the end of Q1 2020 – would not have resulted in cuts to members’ benefits in our example scheme. Rather, members would see a lower increase than they had previously expected and this level of increase would now also form the basis of target increases in the future.

From a member perspective, that may be an easier pill to swallow than a 25% cut in the face value of their DC pot.

That said, periods of deep and sustained market falls would probably mean target benefits would need to be cut. Should this arise, we believe there are good grounds to apply the same cut to all categories of membership rather than ring-fencing certain categories of member, such as the older pensioners. But during those periods, members in DC (as we will see later) would probably still be worse off, given:

- They bear all risk on their own, and
- Their time-horizons for saving are typically much shorter than in CDC (so they have less time to recoup any falls in their savings).

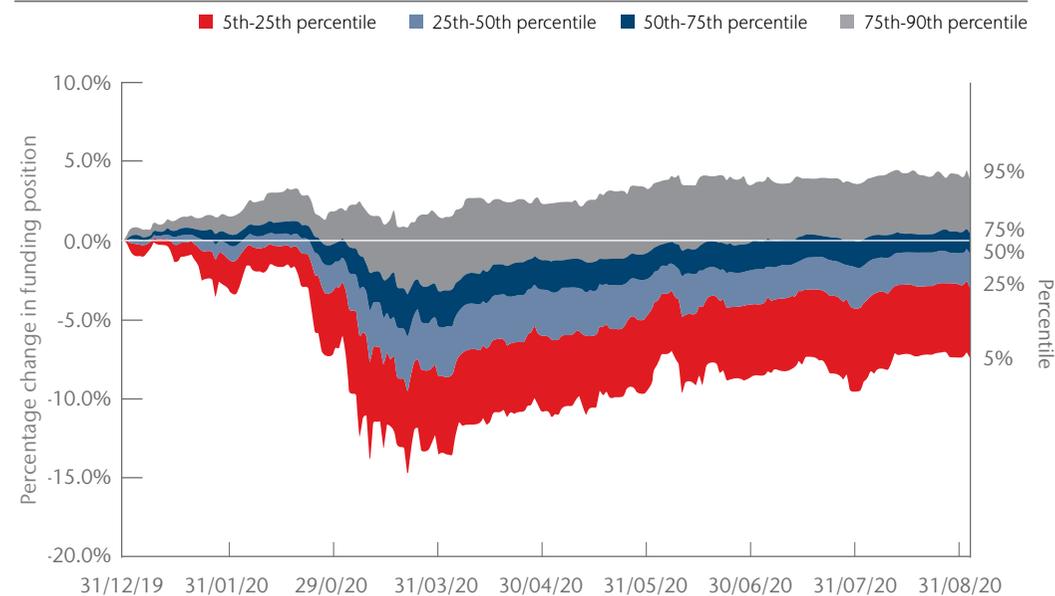
In general, a CDC scheme can target a greater proportion of growth assets for a longer period because investment risk is collectively shared across the entire membership, and so not borne by any member individually.

In summary, CDC schemes respond to asset value fluctuations by adjusting the target level of increases that are affordable. However, under some circumstances, even this mechanism reaches its limit and in that case, the face value of benefits has to be cut in order to restore the funding level. CDC schemes are not risk-free but, then again, neither are DB and DC schemes. Let’s look at how those types of schemes have fared during 2020.



# DB during the COVID-19 crisis

Tracking DB schemes' funding positions during 2020



Source: Aon Risk Analyzer

Of the approximately 200 UK pension schemes using Aon's Risk Analyzer tool, around 25% (represented by the grey area and above in the chart) have seen their funding position strengthen, by up to around 5%, since the end of December 2019. These schemes are likely to have reaped the benefits of high-levels of hedging, and it is great to see them accelerating on their journey to reaching their long-term goals.

About 50% of schemes (represented by blue and light blue areas) have seen their funding position weaken by up to around 5% over this period. For a £500 million scheme that equates to an additional deficit of around £25 million.

The remaining 25% of schemes (represented by the red area and below) have seen their funding position weaken by over 5%, and in some cases by 10% or more in the same period.

During the COVID-19 crisis, many DB schemes have seen their pension scheme deficit balloon and this has come at a time when their sponsor covenant has weakened. The Pensions Regulator (TPR)'s easements around the suspension of deficit-repair contributions will have provided some welcome relief to the 10% or so of employers who have deferred payments in this way, but this comes at the expense of heightened risk to the security of scheme members' benefits.

Even with all the government support, short-term cashflow constraints and long-term sponsor viability pose a real threat to member security, particularly in certain sectors.

Once government support falls away, members of some of these DB schemes will inevitably fall into the Pension Protection Fund (PPF). As valuable a safety net as this provides, PPF entry does represent a deterioration in pension value for almost all members compared with what was promised through their employer's scheme. This could be by virtue of the 10% reduction to benefits for non-pensioners, the loss of some or all pension increases and / or the (under review) compensation cap.

While, in principle, DB schemes offer members a guaranteed pension for life, the truth is that those benefits are only as good as their employer's existence which is an unknown - and particularly so in the current climate.

# DC during the COVID-19 crisis

From an employer's perspective, as with CDC, DC is fixed cost. Employees bear all the risk, and benefits can be cut via asset losses from market movements. Indeed, most DC savers suffered a loss - almost overnight - at the end of Q1 2020.

The impact felt by individual members will largely depend on how long they have to repair the market falls, as well as the nature of how their DC savings were invested.

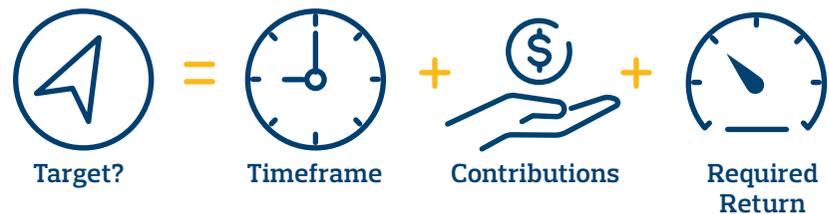
Those with a longer term to retirement - typically younger generations of savers - have time on their side to recoup some if not all of the shortfall. Those retiring in the more immediate term, or who are already in retirement, may have been protected to some extent through lifestyling of their DC investment strategy, although income drawdown funds could have been negatively affected and these members will not have as long to recover.

People retiring in the second and third quarters of 2020, and with greater exposure to growth assets, will probably have retired on less than they were planning for and may have had little flexibility to defer retirement having committed to that decision in advance. They could also have suffered if they have moved money between asset classes or taken money out in the form of a cash lump sum when markets were in a stressed position.

However, it is Generation X, the so-called 'squeezed middle' population, who could be the most likely to be impacted. This group typically remains fully invested in growth assets or may only be at the start of their lifestyling journey - and without much time left until retirement to restore the big cuts they have seen.

Their retirement income prospects look the weakest given they are also probably the first generation we will see in the UK retiring largely or exclusively on DC savings. We believe it is this group of savers whose retirement income prospects could be most improved through CDC.

Crucially in DC schemes, the ultimate significance of the shock to asset values in 2020 will depend on how long an individual saver has left for future asset returns to heal the damage, as well as their personal capacity to make further contributions.



# The case for CDC

Whether provided through a DB, DC or CDC scheme, there is always a risk to the pension benefits being provided, and the costs associated with providing them.

The type of scheme governs how the various risks are balanced between employers and their employees. However, it is clear that outcomes between employers and their employees – including different generations of employees – occur in different ways.

CDC, as demonstrated, has some unique characteristics which make it an attractive way for employers to help their employees build up pension benefits.

CDC's key attraction is that, for a fixed cost to employers, it can provide what the majority of employees want in their retirement. It delivers a target inflation-linked income payable for life, from DC savings, without having to make complex financial and investment decisions along the way.

As we set out above, recent events strengthen the case for CDC, and many employers may look to the attractive features of CDC in building a more resilient future, for both member and employer outcomes.

Sitting alongside the existing DB and DC options, CDC adds to the range of design choices for employers, and can provide a stronger, more resilient, pensions landscape for UK pension savers, forming part of a 'New Better' as we move on from the current COVID-19 crisis.



# Contacts

**Chintan Gandhi**

+44 (0)1372 733322  
chintan.gandhi@aon.com

**Matthew Arends**

+44 (0)20 7086 4261  
matthew.arends@aon.com

**Madalena Cain**

+44 (0)20 7086 9040  
madalena.cain@aon.com

## About Aon

Aon plc (NYSE:AON) is a leading global professional services firm providing a broad range of risk, retirement and health solutions. Our 50,000 colleagues in 120 countries empower results for clients by using proprietary data and analytics to deliver insights that reduce volatility and improve performance.

For further information on our capabilities and to learn how we empower results for clients, please visit <http://aon.mediaroom.com>.

© Aon plc 2020. All rights reserved.

This document and any enclosures or attachments are prepared on the understanding that it is solely for the benefit of the addressee(s). Unless we provide express prior written consent, no part of this document should be reproduced, distributed or communicated to anyone else and, in providing this document, we do not accept or assume any responsibility for any other purpose or to anyone other than the addressee(s) of this document.

Notwithstanding the level of skill and care used in conducting due diligence into any organisation that is the subject of a rating in this document, it is not always possible to detect the negligence, fraud, or other misconduct of the organisation being assessed or any weaknesses in that organisation's systems and controls or operations.

This document and any due diligence conducted is based upon information available to us at the date of this document and takes no account of subsequent developments. In preparing this document we may have relied upon data supplied to us by third parties (including those that are the subject of due diligence) and therefore no warranty or guarantee of accuracy or completeness is provided. We cannot be held accountable for any error, omission or misrepresentation of any data provided to us by third parties (including those that are the subject of due diligence).

This document is not intended by us to form a basis of any decision by any third party to do or omit to do anything.

Any opinions or assumptions in this document have been derived by us through a blend of economic theory, historical analysis and/or other sources. Any opinion or assumption may contain elements of subjective judgement and are not intended to imply, nor should be interpreted as conveying, any form of guarantee or assurance by us of any future performance. Views are derived from our research process and it should be noted in particular that we can not research legal, regulatory, administrative or accounting procedures and accordingly make no warranty and accept no responsibility for consequences arising from relying on this document in this regard.

Calculations may be derived from our proprietary models in use at that time. Models may be based on historical analysis of data and other methodologies and we may have incorporated their subjective judgement to complement such data as is available. It should be noted that models may change over time and they should not be relied upon to capture future uncertainty or events.

To protect the confidential and proprietary information included in this material, it may not be disclosed or provided to any third parties without the prior written consent of Aon.

Aon does not accept or assume any responsibility for any consequences arising from any person, other than the intended recipient, using or relying on this material.

Copyright © 2020. Aon Solutions UK Limited. All rights reserved.

Aon Solutions UK Limited Registered in England and Wales No. 4396810

Registered office: The Aon Centre, 122 Leadenhall Street, London, EC3V 4AN.

Aon Solutions UK Limited is authorised and regulated by the Financial Conduct Authority.

Aon Solutions UK Limited's Delegated Consulting Services (DCS) in the UK are managed by Aon Investments Limited, a wholly owned subsidiary, which is authorised and regulated by the Financial Conduct Authority.